Frequently Asked Questions about Japanese Beetle and the Boise Eradication Program

1. How can I identify the beetle?

   ½ to ¾ inch long. Front of body is shiny metallic green. Wing cases are coppery. Body has 5 white tufts of hair along each side and 2 at the back. If it doesn't have all three of these it is not JB. Feeds out in the open, during the daytime, on plant leaves, flowers and fruit. If you found it active at night, especially attracted to a light, it is most likely not JB – several relatives of JB, that look superficially similar, such as May Beetles and Junebugs, are nocturnal. JB usually is not.

2. How can I identify the larva?

   Found in the soil feeding on the roots of grass. A white C-shaped grub with a tan head capsule and relatively long, spindly legs. There are several native scarab beetles, relatives of JB, which have larvae that look very similar to JB grubs. To determine which species you really have a grub needs to be examined with a microscope to look carefully at the arrangement of spiny hairs at the tip of its abdomen. If you bring a specimen of a suspect grub to the ISDA office we can do this to verify whether or not it is JB.

3. What stage of the insect causes damage?

   Both. That is why the pest is so destructive. The grubs feed on grass roots and, if left unchecked, can kill large patches of lawns, parks, golf courses and similar turf-covered areas. The adults feed on foliage and flowers, skeletonizing them (only the veins remain), and also eat fruits and vegetables. When feeding the adults release an aggregation pheromone which attracts other adults, and those beetle clusters can completely consume a fruit or vegetable on which they are feeding.

4. How long do the beetles live?

   They have one generation per year. Eggs are laid in the soil mostly during July and August. Grubs hatch from the eggs and feed from July through October then move deeper into the ground to hibernate until spring. When weather warms enough the grubs move back closer to the surface and become pupae from which adults begin emerging in late June to begin the cycle again. Adults live about a month.

5. What is the plan for the areas designated as needing treatment?

   In mid-to-late May all grass or turf-containing areas on residential/business properties in each treatment zone (see treatment maps linked on the ISDA website) will be treated by a contracted lawn-care company under the direction of ISDA with a granular formulation of Acelepryn to prepare the grass to kill grubs as soon as they begin feeding. In mid-July the same areas will be treated with a granular formulation of Imidacloprid to kill feeding grubs that escape the initial

treatment or later-hatching grubs. Flower and vegetable gardens and any other areas not containing grass will not receive these treatments. Simultaneously property managed by Boise Parks and Rec will be treated in a comparable manner by them. Several areas at BSU are also slated for treatment.

6. Will my property be safe for children and pets after treatment?

   When applied properly, following the label directions, the pesticides chosen for JB treatment are very safe. ISDA is hiring a professional pesticide applicator to ensure that the treatments are carried out correctly, and will also be on hand to monitor treatments as they occur. Both Acelepryn and Imidacloprid, while extremely effective against immature grass-eating insects like JB and billbugs, have extremely low levels of toxicity to terrestrial vertebrates. With the formulations and quantities we are using table salt is more toxic to people and pets. Immediately after the granules are applied to the lawn it is safe to reenter.

7. What kind of effect on beneficial insects and pollinators is expected with the treatment for JB?

   Very little effect is expected. The chemicals chosen, the method of application and the timing of treatment have all been selected to maximize impact on JB and minimize collateral damage on the rest of the ecosystem. Pollinators are at greatest risk when insecticides are applied as a foliar spray, especially when gardens or crops are in bloom and pollinators are foraging for nectar. Grass species are plants that are pollinated by wind, rather than insect pollinator activity, so the turf ecosystem (the only place we will be applying pesticides) is notorious for being devoid of pollinators in general – and the application method (granules which fall onto the ground and dissolve into the soil) makes it even less likely that pollinators or beneficial predators will come into actual contact with the chemicals.

8. Will I be notified before my property is treated?

   Someone from ISDA will visit every property the week before treatment is scheduled to hand deliver information on the treatment date, approximate time of day (if known) and any precautions we recommend. If you are home we will be glad to answer any questions. If you are not present we will leave the information at the residence or business for you.

9. Is there a cost to me for the treatment?

   No.

10. How long does treatment take?

    Naturally it varies depending on the size of the area needing to be treated. In past years an application to an “average” yard took about 10 minutes.

11. How long will eradication of JB take?

That's hard to say at this point, since the infestation and the eradication program are still very young and data on treatment effectiveness is just beginning to be collected. Based on information from other western states that have gone through this process it will clearly take several years to be successful, and chances are the treatment areas may shift from time to time assuming that beetles will disappear from places where treatment has been successful, but may also move to infest untreated areas, since they are capable of flight (and can also be inadvertently transferred to new areas as "hitchhikers" on vehicles, in the movement of yard waste, etc.). In a situation that appears to be similar to ours, JB infestation in Orem, UT, the beetles were first detected in 2006, reached their highest level in 2007 – the year their eradication program began, and were declared eradicated in 2014.

12. Is this program mandatory?

    Yes. The only chance we have to rid the state of JB and return things to the beetle-free status quo that has been enjoyed by Idaho and the western states surrounding us is by cooperating and allowing treatment of any areas containing grass in the zones where JB have been collected in survey traps or where beetles have been seen feeding on foliage. To skip treatment of any of those properties would ensure that small "islands" of beetles are being left to continually reinfest treatment areas and adjacent areas that may have been beetle-free.

13. Are there alternative treatments that can be used in place of those selected by ISDA?

    Much research went into selecting the survey and treatment protocols as well as the pesticides chosen, with an eye towards safety, efficacy of the treatment and environmental impact. The program selected was chosen as the best course presently available to maximize the above conditions. Several alternatives that have been proposed, for example Neem oil and beneficial nematodes, have severe limitations and do not afford the effectiveness at a level of control that could ever achieve eradication.

14. Who can I contact if I have other questions or think I've found JB outside the current treatment areas?

    Please feel free to contact Paul Castrovillo, Pest Detection and Survey Manager, Idaho State Department of Agriculture, P.O. Box 790, Boise, ID 83701 or call 208-332-8627 or e-mail Paul.Castrovillo@agri.idaho.gov.